

II. REMARKS

Claims 1-11, 14-28, and 30-32 are pending. The Applicant's attorney has amended claims 1, 4-5, 17-28, and 30-31, canceled claims 12-13 and 29 without prejudice or disclaimer, and added new claim 32. In light of the following, all of the claims as amended are now in condition for allowance, and, therefore, the Applicants' attorney requests the Examiner to withdraw all of the outstanding rejections. If, after considering this response, the Examiner does not agree that all of the claims are allowable, he is requested to schedule a teleconference with the Applicant's attorney to further the prosecution of the application.

Objection to the Drawings

The Applicant's attorney has added the legend "Prior Art" to FIG. 1, and has enclosed a replacement sheet with this amendment.

The Applicant's attorney has also amended FIG. 3 to include the bridging conductor (129, 130) of FIG. 3, and has enclosed a replacement sheet with this amendment. Such a bridging conductor is disclosed in paragraph 32 of the patent application; consequently, the addition of the bridging conductor to FIG. 3 adds no new matter to the patent application.

In the Specification

The Applicant's attorney has amended the specification to correct minor typographical errors and to be consistent with the amended FIG. 3. But these amendments add no new matter to the patent application.

Rejection of Claims 1, 3-6, 10-11, 14-16, and 30-31 Under 35 U.S.C. § 102(b) as Being Anticipated By U.S. Patent 3,961,296 to Wiggernhorn

Claim 1

The Applicant's attorney has amended claim 1 to include all of the limitations of its canceled dependent claim 13, which the Examiner indicated as containing allowable subject matter. Therefore, claim 1 is allowable.

Claims 3-6, 10-11, and 14-16

These claims are patentable by virtue of their dependencies from claim 1 as amended.

Claim 30

The Applicant's attorney has also amended claim 30 to include all of the limitations of canceled dependent claim 13. Therefore, claim 30 as amended is allowable for the same reasons as claim 1.

Claim 31

Claim 31 as amended recites a circuit board having a signal conductor disposed in a first plane, and first and second openings and first, second, and third conductive regions disposed in a second plane.

In contrast, referring, e.g., to FIG. 2, although Wiggernhorn discloses a signal conductor 13 in a first plane, he discloses only a single opening 17 and only two conductive regions 11 in a second plane.

Rejection of Claim 2 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Wiggernhorn in View of U.S. Patent 6,624,729 to Wright et al.

Claim 2 is patentable by virtue of its dependency from claim 1 as amended.

Rejection of Claims 7-9, 25, and 28-29 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Wiggernhorn in View of Applicant's Admitted Prior Art FIG. 1

Claims 7-9

These claims are patentable by virtue of their dependencies from claim 1 as amended.

Claim 25

Claim 25 as amended recites a method comprising forming a bridging conductor across an opening.

In contrast, the combination of Wiggenghorn and FIG. 1 of the patent application does not disclose or suggest a bridging conductor (no such conductor is disclosed in either reference).

Claim 28

Claim 28 as amended recites transmitting a signal along a signal conductor disposed in a first plane of a circuit board, and returning the signal along a first conductive region in a second plane that also includes a second conductive region separated from the first conductive region by a first opening and a third conductive region separated from the first conductive region by a second opening, the first, second, and third conductive regions at a common voltage.

In contrast, referring, e.g., to FIG. 2 of Wiggenghorn, the combination of Wiggenghorn and FIG. 1 of the patent application at most suggest a single opening 17 and two conductive regions 11.

Rejection of Claims 17-20, 22, and 23 Under 35 U.S.C. § 103(a) as Being Unpatentable Over U.S. Patent 4,288,760 to Beyer and in View of Wright

Claim 17

Claim 17 as amended recites a circuit board comprising a signal conductor disposed in a first plane, first and second conductive regions disposed in a second plane, a first opening disposed in the second plane, substantially parallel to the signal conductor, and contiguous with and disposed between the first and second conductive regions, a third conductive region disposed in the second plane, a second opening disposed in the second plane, substantially parallel to the signal conductor, and contiguous with and disposed between the second and third conductive regions, wherein the first, second, and third conductive regions are operable at a common voltage, and wherein respective dimensions of the first and second openings and a respective proximity of the openings to the signal conductor are selected to affect an

impedance of a transmission path formed by the signal conductor and the second conductive region.

For example, referring to FIG. 3 of the patent application, a circuit board 100 includes a signal conductor 20 disposed in a first plane, first and second conductive regions (left region and region 120) disposed in a second plane 110, a first opening 122 disposed in the second plane 110, substantially parallel to the signal conductor 20, and contiguous with and disposed between the first and second conductive regions, a third conductive region (right region) disposed in the second plane 110, a second opening 124 disposed in the second plane 110, substantially parallel to the signal conductor 20, and contiguous with and disposed between the second and third conductive regions, wherein the first, second, and third conductive regions are operable at a common voltage (e.g., ground), and wherein respective dimensions of the first and second openings 122 and 124 and the respective proximity of the openings 122 and 124 to the signal conductor 20 are selected to affect an impedance of a transmission path formed by the signal conductor 20 and the second conductive region 120.

In contrast, Wright's openings 18 are perpendicular, not substantially parallel, to the conductor 16.

Further in contrast, referring, e.g., to Beyer's FIG. 5, the trace 17 composes a microstrip transmission line and the traces 19 and 20 compose respective coplanar transmission lines, each transmission line carrying a respective transmission signal. Therefore, the traces 19 and 20 are not at the same voltage as the conductive region 18 with which the trace 17 forms a microstrip transmission line. In fact, because the traces 19 and 20 form respective coplanar transmission lines with the adjacent regions 18, these traces are inoperable at the same voltage as the adjacent regions 18.

Claims 20, 22, and 23

These claims are patentable by virtue of their dependencies from claim 17 as amended.

Rejection of Claim 21 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Beyer and Wright in Further View of Applicant's Admitted Prior Art FIG. 1

Claim 21 is patentable by virtue of its dependency from claim 17 as amended.

Rejection of Claim 24 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Beyer and Wright in Further View of U.S. Patent 5,125,111 to Trinh

Claim 24 is patentable by virtue of its dependency from claim 17 as amended.

Rejection of Claims 26-27 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Beyer in View of Wright and Applicant's Admitted Prior Art FIG. 1

Claim 26

Claim 26 as amended is patentable for reasons similar to those discussed above in support of the patentability of claim 17.

Claim 27

This claim is patentable by virtue of its dependency from claim 26.

CONCLUSION

In light of the foregoing, claims 2-3, 6-11, and 14-16 as previously pending, claims 1, 4-5, 17-28, and 30-31 as amended, and new claim 32 are in condition for full allowance, which is respectfully requested.

In the event additional fees are due as a result of this amendment, payment for those fees has been enclosed in the form of a check. Should further payment be required to cover such fees you are hereby authorized to charge such payment to Deposit Account No. 08-2025.

DATED this 9th day of December, 2004.

Respectfully Submitted,
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I. AMENDMENT

In the Drawings:

Please substitute the attached Replacement Sheets of FIGS. 1 and 3 for the respective figures as originally filed.